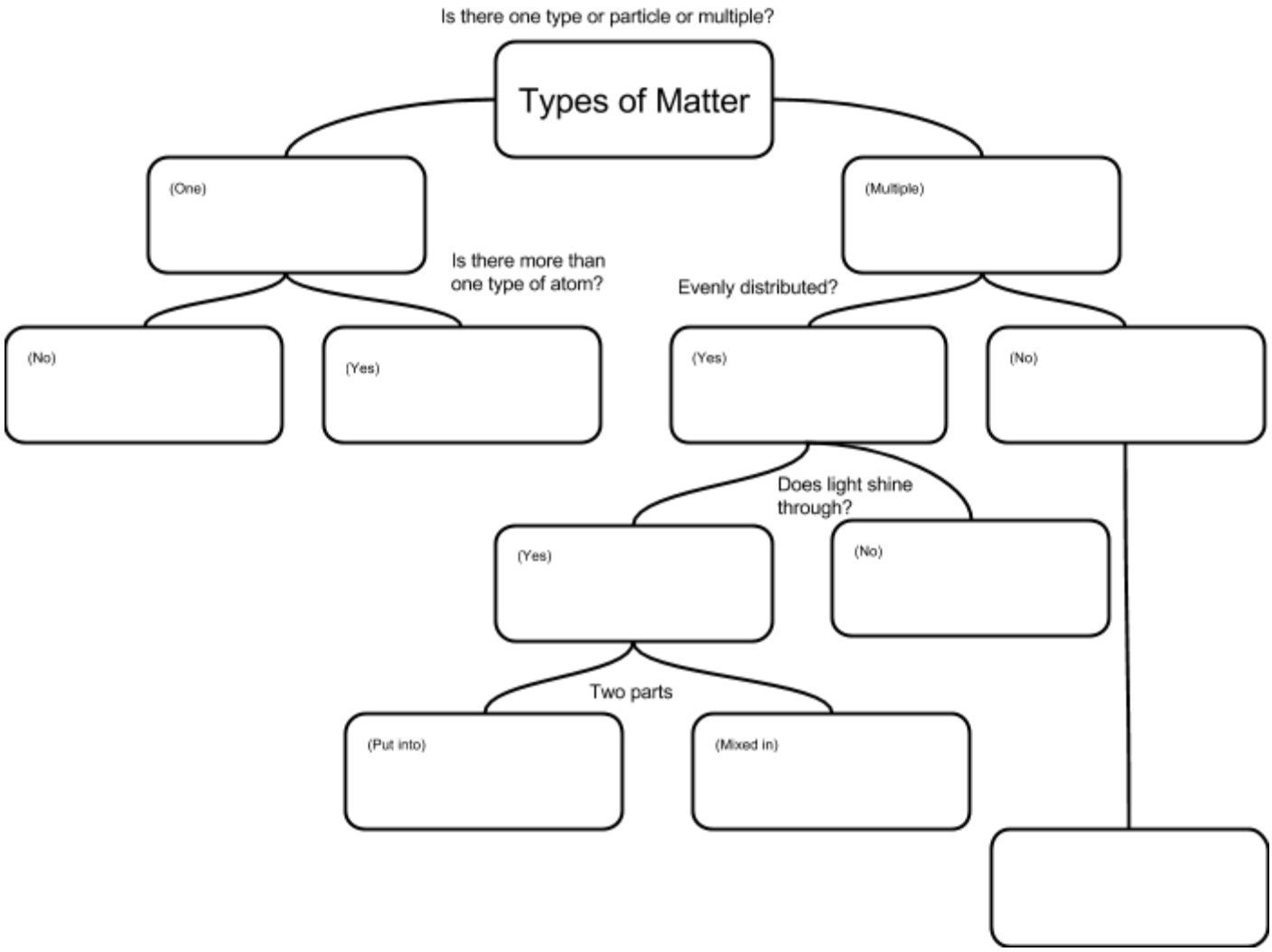
Name: _____ Per: _____

Properties of Matter Test Review

Complete the following table with the terms learned on types of mixtures based on the answer given in each box to the question posed.

Colloid, Compound, Element, Heterogeneous, Homogeneous, Mixture, Pure Substance, Solute, Solution, Solvent, Suspension



Rank the colloid, solutions and suspensions based on the size of particles found in them from largest to smallest

Largest: _____ , _____ , _____ Smallest

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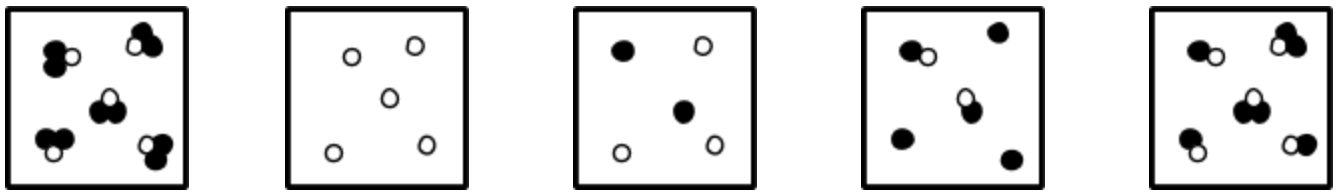
Match each diagram with its correct description. Diagrams will be used once.



A **B** **C** **D** **E**

___1. Pure Element – only one type of atom present.

___2. Mixture of two elements – two types of uncombined atoms present.

___3. Pure compound – only one type of compound present.

___4. Mixture of two compounds – two types of compounds present.

___5. Mixture of a compound and an element.

Elements:

- A pure substance containing only one kind of _____.
- An element is always uniform all the way through (homogeneous).
- An element _____ be separated into simpler materials (except during nuclear reactions).
- Over 100 existing elements are listed and classified on the _____.

Compounds:

- A pure substance containing two or more kinds of _____.
- The atoms are _____ combined in some way. Often times (but not always) they come together to form groups of atoms called molecules.
- A compound is always homogeneous (uniform).
- Compounds _____ be separated by physical means. Separating a compound requires a chemical reaction.
- The properties of a compound are usually different than the properties of the elements it contains.

Mixtures:

- Two or more _____ or _____ NOT chemically combined.
- No reaction between substances.
- Mixtures can be uniform (called _____) and are known as solutions.
- Mixtures can also be non-uniform (called _____).
- Mixtures can be separated into their components by chemical or physical means.
- The properties of a mixture are similar to the properties of its components.

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Density:

The formula for density is _____. The units of density are _____

1. STUDY your labs. Understand what the line of best fit represents in the density of water lab.

Practice:

a) If an object has a volume of 5.5 cm^3 and a mass of 3.0 g, what is its density? Show work below.

b) If you have 3 unknown liquids that have 3 different densities, (A=1.0g/ml, B=1.3g/ml and C = .88g/ml) draw a

`

c) A piece of tin has a mass of 16.52 and a volume of 2.26 cm^3. What is the density of tin? Will it float or sink in pure water?

d) A man has a 50 cm^3 bottle completely filled with 163 g of a slimy green liquid. What is the density of the liquid?

e) A piece of metal has a density of 11.3 g/cm^3 and a volume of 6.7 cm^3. What is the mass of this piece of metal?

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Temperature is the average _____ energy of the substance.

Temperature is measured using a _____

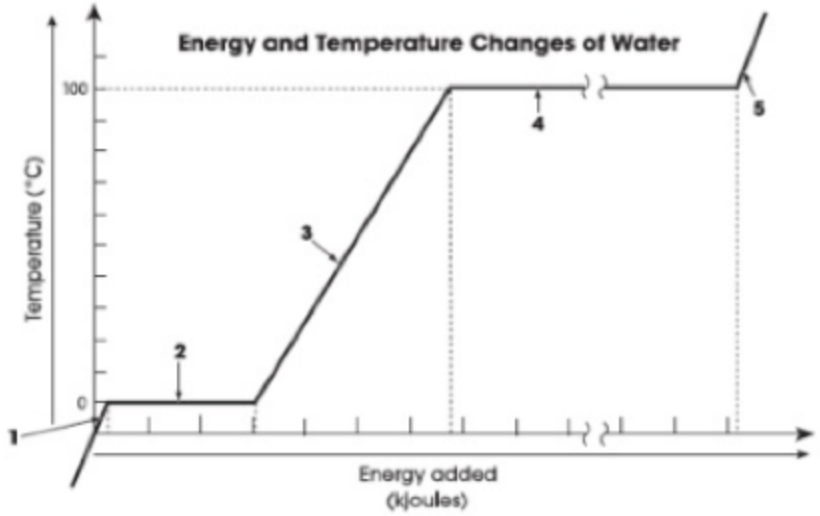
As temperature increases so does the average _____.

If particles begin to slow down, the temperatures _____

How can freezing and melting happen at the same temperature?

As the temperature of a substance increases, how does this affect the speed of the particles that make up that substance?

The following graph shows the change in temperature of a sample of H_2O, which begins as ice, as thermal energy is added.



a) Mark on the graph with the letter "A" where water is boiling.

b) Mark on the graph with the letter "B" where the water is melting.

c) Mark on the graph with the letter "C" where the water is liquid and gas.

d) Mark on the graph with the letter "D" where the water is all liquid.

e) What happens to temperature during a phase change?

STUDY the phase change diagram and be able to answer any questions about changes in kinetic energy, potential energy, heat energy, what happens during a phase change, particle separation, speed of particles and be able to draw/recognize the different particle diagrams that correspond to the changes in temperature/phases

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Balance the following equations:

1) ____ MgF_2 + ____ Li_2S → ____ MgS + ____ LiF

2) ____ P_4 + ____ O_2 → ____ P_2O_3

3) ____ CF_4 + ____ Br_2 → ____ CBr_4 + ____ F_2

4) ____ HCl + ____ CuO → ____ H_2O + ____ $CuCl_2$

5) ____ GaF_3 + ____ Cs → ____ CsF + ____ Ga

6) ____ NaF + ____ Br_2 → ____ NaBr + ____ F_2

Substance to the left of the arrow are called _____

Substance to the right of the arrow are called _____

Whatever elements are on the left must be on the _____.

The total mass of reactants must be _____ to the mass of the products = **Law of Conservation of Mass.**